Listing of Claims:

Claims 1-23 (Canceled).

24. (Currently Amended) A geometric property analyzing system for analyzing geometric properties regarding at least one of a recording device, a recording medium, and an image pickup apparatus, the system comprising:

format storage means for storing a geometric property format;

recording means for recording a test chart including a plurality of marks on a recording face of a recording medium based on the geometric property format;

image pickup means for optically reading [[a]] the test chart including [[a]] the plurality of marks recorded on [[a]] the recording face of [[a]] the recording medium based ~~on the predetermined geometric property format~~, and creating a chart image; and

analyzing means for determining ~~at least one of~~ a reference point and [[a]] two mutually independent reference ~~vector~~ vectors for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between: ~~the predetermined~~ respective positions of the plurality of marks in

the chart image created by the image pickup means, and ~~the predetermined~~ respective positions of the plurality of marks based upon the geometric property format stored in the format storage means.

Claim 25 (Canceled).

26. (Original) The geometric property analyzing system according to claim 24, wherein the analyzing means divide the test chart into a plurality of chart components so as to perform analysis for each chart component.

27. (Original) The geometric property analyzing system according to claim 26, wherein the number of marks included in the chart component is determined based upon: the precision of detecting the position of the mark; and the required precision of the geometric properties which are to be analyzed.

28. (Original) The geometric property analyzing system according to claim 26, wherein the chart component is designed based upon:

the geometric properties which are to be analyzed; and

the required precision of the geometric properties.

29. (Original) The geometric property analyzing system according to claim 24, wherein the analyzing means divide the test chart into a plurality of chart components so as to perform relative comparison between the geometric properties of each chart component and the geometric properties of the other chart component serving as a reference, thereby enabling analysis of the geometric properties of each chart component.

Claim 30 (Canceled).

31. (Currently Amended) The geometric property analyzing system according to claim 24, ~~further comprising~~ wherein the system comprises a plurality of said recording means ~~for recording the plurality of marks on the recording face of the recording medium~~, wherein the analyzing means divides the ~~aforementioned~~ plurality of marks into ~~the~~ chart components corresponding to the recording means for recording the marks, and determines at least one of the aforementioned reference point and unit vector for each chart component thus divided.

32. (Original) The geometric property analyzing system according to claim 31, wherein each of the plurality of recording means records the marks in different forms, and wherein the

analyzing means group the marks based upon the form thereof, and forms a chart component for each group.

33. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein the geometric property format is reconstructed based upon the analysis results analyzed by the analyzing means so as to perform recording on the recording face of the recording medium by the recording means.

34. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein the geometric properties of the recording means are adjusted based upon the analysis results analyzed by the analyzing means.

35. (Original) The geometric property analyzing system according to claim 34, wherein adjustment of the geometric properties of the recording means are made in order of:

skew adjustment;

density adjustment; and

timing adjustment.

36. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, further comprising transporting means for transporting the recording medium relative to the

recording means, wherein the image pickup means is disposed on the downstream side of the recording means along the transporting direction determined by the transporting means, and is formed of a line sensor for optically reading out the test chart formed of the plurality of marks recorded by the recording means.

37. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein the recording means comprises an ink-jet head for recording the plurality of marks on the recording medium by discharging ink.

38. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein the image pickup means is formed with higher image pickup resolution than the recording resolution of the recording means.

39. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein the analyzing means is formed as a separate unit from the recording means and the image pickup means.

40. (Currently Amended) The geometric property analyzing system according to claim ~~30~~ 24, wherein ~~the geometric property format stored by the format storage means is suitable for use in~~

~~recording the test chart by the recording means, and~~ the format storage means is integrally held by the recording means.

41. (Currently Amended) The geometric property analyzing system according to claim 24, ~~wherein~~ further comprising a transporting belt for relatively transporting the recording medium with respect to the image pickup means ~~is used as another recording medium, and wherein a belt face of the transporting belt serves as a recording face, and wherein a plurality of marks are recorded on the belt face so as to form a test chart on the belt face~~.

42. (Currently Amended) The geometric property analyzing system according to claim 41, wherein a plurality of openings ~~formed on the belt face of~~ are formed in the transporting belt ~~serve as the plurality of marks~~, and wherein the system further comprises suctioning means ~~is further provided~~ for fixing the recording medium on the belt face by air suctioning through the plurality of openings.

43. (Original) The geometric property analyzing system according to claim 24, wherein the geometric property format is designed giving consideration to the image size handled by the geometric property analyzing system.

44. (Original) The geometric property analyzing system according to claim 24, wherein the image pickup means analyzes the geometric properties based upon the geometric property format using a reference chart serving as a reference test chart in which the plurality of marks have been recorded with higher recording precision than the required analysis precision.

45. (Currently Amended) The geometric property analyzing system according to claim 44, ~~further comprising at least one recording means for recording the plurality of marks on the recording face of the recording medium,~~ wherein the geometric properties of the image pickup means are analyzed before analysis of the geometric properties of the recording means, and wherein the reference chart is recorded with higher recording precision than the recording precision of the recording means.

46. (Currently Amended) A printer employing the geometric property analyzing system according to claim ~~30~~ 24.

47. (Previously Presented) An ink-jet printer employing the geometric property analyzing system according to claim 37.

48. (Currently Amended) A geometric property analyzing method for analyzing geometric properties regarding at least one

of a recording device, a recording medium, and an image pickup apparatus, the method comprising:

a format storing step for storing a predetermined geometric property format;

a printing step for printing a test chart including a plurality of marks on a recording face of a recording medium, based on the predetermined geometric property format;

an image picking-up step for optically reading out the test chart and creating a chart image; and

an analyzing step for determining ~~at least one of~~ a reference point and [[a]] two mutually independent reference ~~vector~~ vectors for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between~~:~~ ~~the predetermined~~ respective positions of the plurality of marks in the chart image formed in the image picking-up step and ~~the predetermined~~ respective positions of the plurality of marks based upon the geometric property format stored in the format storing step.

49. (Previously Presented) The geometric property analyzing method according to claim 48, wherein the plurality of marks are recorded based upon at least two kinds of the geometric property

formats which allow analysis of the geometric properties without unintended interference between the marks.

50. (Original) The geometric property analyzing method according to claim 48, wherein in the analyzing step, the test chart is divided into a plurality of chart components, and relative comparison is made between the geometric properties of each chart component and the geometric properties of the chart component serving as a reference, thereby enabling analysis of the geometric properties of each chart component.

51. (Currently Amended) The geometric property analyzing method according to claim 48, further ~~including a recording step wherein~~ the printing step is performed using at least one recording means for recording ~~records~~ the plurality of marks on the recording face of the recording medium.

52. (Original) The geometric property analyzing method according to claim 51, wherein the geometric properties of the recording means are adjusted based upon the analysis results obtained in the analyzing step.

53. (Original) The geometric property analyzing method according to claim 52, wherein adjustment of the geometric properties of the recording means is made in order of:

skew adjustment;

density adjustment; and

timing adjustment.

54. (Previously Presented) A printer having a function for analyzing the geometric properties using the geometric property analyzing method according to claim 48.

55. (Previously Presented) An ink-jet printer having a function for analyzing the geometric properties using the geometric property analyzing method according to claim 48.

56. (Currently Amended) A geometric property analyzing system for analyzing geometric properties regarding at least one of a recording device, a recording medium, and an image pickup apparatus, the system comprising:

a format storing unit for storing a geometric property format that causes a same number of marks between chart components to exist along a predetermined direction for each of a plurality of chart components;

a printing unit for printing a test chart on a recording face of the recording medium based on the predetermined geometric property format such that unintended deviations of recording positions of a plurality of marks which are to be arrayed with uniformity along a direction orthogonal to the predetermined direction can be canceled out;

an image picking-up unit for optically reading out the test chart and creating a chart image; and

an analyzing unit for determining ~~at least one of~~ a reference point and [[a]] two mutually independent reference ~~vector~~ vectors for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between ~~the predetermined~~ respective positions of the plurality of marks in the chart image formed in the image picking-up unit and ~~the predetermined~~ respective positions of the plurality of marks based on the geometric format stored in the format storing unit.

57. (New) A geometric property analyzing system for analyzing geometric properties regarding at least one of a recording device, a recording medium, and an image pickup apparatus, the system comprising:

format storage means for storing a geometric property format;

recording means for recording a test chart including a plurality of marks on a recording face of a recording medium based on the geometric property format;

image pickup means for optically reading the test chart including the plurality of marks recorded on the recording face of the recording medium based, and creating a chart image; and

analyzing means for calculating respective center positions of the plurality of marks in the chart image created by the image pickup means, and for determining at least one of a position vector of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between: the respective center positions of the plurality of marks in the chart image created by the image pickup means, and respective positions of the plurality of marks based upon the geometric property format stored in the format storage means.

58. (New) A geometric property analyzing method for analyzing geometric properties regarding at least one of a recording device, a recording medium, and an image pickup apparatus, the method comprising:

a format storing step for storing a predetermined geometric property format;

a printing step for printing a test chart including a plurality of marks on a recording face of a recording medium, based on the predetermined geometric property format;

an image picking-up step for optically reading out the test chart and creating a chart image; and

an analyzing step calculating respective center positions of the plurality of marks in the chart image, and for determining at least one of a position vector of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between: the respective center positions of the plurality of marks in the chart image formed in the image picking-up step and respective positions of the plurality of marks based upon the geometric property format stored in the format storing step.

59. (New) A geometric property analyzing system for analyzing geometric properties regarding at least one of a recording device, a recording medium, and an image pickup apparatus, the system comprising:

a format storing unit for storing a geometric property format that causes a same number of marks between chart components to exist along a predetermined direction for each of a plurality of chart components;

a printing unit for printing a test chart on a recording face of the recording medium based on the predetermined geometric property format such that unintended deviations of recording positions of a plurality of marks which are to be arrayed with uniformity along a direction orthogonal to the predetermined direction can be canceled out;

an image picking-up unit for optically reading out the test chart and creating a chart image; and

an analyzing unit for calculating respective center positions of the plurality of marks in the chart image created by the image pickup means, and for determining at least one of a position vector of a reference point and a reference vector for determining the predetermined positions of the plurality of marks in the chart image such that the sum of squares of the difference becomes minimum between the respective center positions of the plurality of marks in the chart image formed in the image picking-up unit and respective positions of the plurality of marks based on the geometric format stored in the format storing unit.